



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,003	02/14/2002	Paul F. Baude	57181US002	9203
32692	7590	12/28/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			TRINH, HOA B	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	
			2814	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,003

Applicant(s)

BAUDE ET AL.

Examiner

Vikki H. Trinh

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 and 34-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-33, 39 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1204.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 20 and 39-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Tang (5,937,272)

As to claim 20, Tang discloses an integrated circuit having a deposition substrate 20, a patterned first electrode layer 62 adjacent the substrate; a patterned organic semiconductor layer (col. 4, line 14, col. 7, lines 2, 26) ; and a second patterned electrode layer 72, wherein the patterned layer is defined by repositionable aperture mask 112 and the first electrode and the organic layer are vapor deposited (col. 4, line 50). See figure 1.

Note: In a device claim , any method step of making the device is considered, but the step of making is not deemed structurally distinct over the prior art of record.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2814

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 21-22, and 25-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tang in view of Sturm et al. (6,087,196).

Tang discloses the invention substantially as claimed. However, Tang does not explicitly teach that the first electrode layer defines a gate electrode and the second electrode layer defines S/D electrodes of the TFT.

Sturm et al. teaches a first electrode layer 62 defines a gate electrode and the second electrode layer 72, 90 defines S/D electrodes of the TFT. See figure 1.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Tang with the first and second electrodes, as taught by Sturm et al., so as to clearly define the source, drain, and gate S/D electrodes in the transistor.

As to claim 22, Sturm et al. teaches that the first electrode 124, 126 defines the S/D electrodes and the second electrode layer 118 defines a gate electrode. See figures 14B.

As to claim 25, Sturm et al. that the organic semiconductor is a polycrystalline organic semiconductor. See column 6, lines 50-68.

As to claim 26, Sturm et al. that the material is pentacene. See column 6, lines 50-65.

As to claim 27, Sturm et al. that one or more complimentary transistor circuit elements 108, 110, 112. See figures 13C.

As to claim 28, Sturm et al. that the elements include a semiconductor layer 102, 104, 106, having amorphous semiconductor layer. See column 6, lines 40-50.

As to claims 29-31, Sturm et al. that one or more layers 62, 72 includes one or more interconnects. Fig. 1.

As to claim 32, Sturm et al. that a patterned dielectric layer 52, 128 (col. 8, lines 23-25) formed adjacent to the organic layer 123. See figure 1.

As to claim 33, Sturm et al. that the IC is an electronic display. See column 1, lines 21-25.

7. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tang (5,937,272).

Tang discloses the invention substantially as claimed. However, Tang does not teach a specific range of gap between the S/D electrodes. Nonetheless, it would have been obvious to one skilled in the art at the time the invention was made to modify the gap between the s/d electrodes Tang with the specific range, as claimed, since it is prima facie obvious of an artisan's experimentation and optimization because applicant has not established any criticality for the specific range.

Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising therefrom. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the applicant must show that the chosen dimensions are critical. (In re Woodruff, 919 F.2d 1575, 1578 (Fed. Cir. 1990).)

Response to Arguments

7. Applicant's arguments with respect to claims 20-33 filed on Sept. 01, 2004, have been considered but they are not persuasive.

In the remarks, Applicant argues the rejection of claim 20 under 35 U.S.C. sec. 102 as being anticipated by Tang. In particular, applicant contends that Tang does not disclose an integrated circuit, as claimed. On the contrary, Tang discloses every elements of claim 20, as stated in the rejection above. Tang discloses an integrated circuit having a deposition substrate 20, a patterned first electrode layer 62 adjacent the substrate; a patterned organic semiconductor layer (col. 4, line 14, col. 7, lines 2, 26) ; and a second patterned electrode layer 72, wherein the patterned layer is defined by repositionable aperture mask 112 and the first electrode and the organic layer are vapor deposited (col. 4, line 50). See figure 1. Further, Tang teaches that the

Art Unit: 2814

aperture mask is used for patterning and depositing electrodes. Therefore, the rejection of claim 20 is maintained. Note: Claims 39-40 fall together with claim 20.

As to claims 21-22, 25-33, Sturm cures the deficiencies in Tang. Moreover, applicant is not correct when applicant states that Tang and Sturm do not teach a multiple IC layers because Tang and Sturm teach the present invention. Further, the examiner has established a prima facie of obviousness according to MPEP section 2143. As stated, it would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Tang with the first and second electrodes, as taught by Sturm et al., so as to clearly define the source, drain, and gate S/D electrodes in the transistor. Therefore, the rejection is maintained.

According to claim 23-24, the examiner states that it is prima facie obvious of an artisan's experimentation and optimization to provide a specific range of dimensions because applicant has not established any criticality for the specific range.

For the fore going reasons, the examiner maintains the rejection.

Conclusion

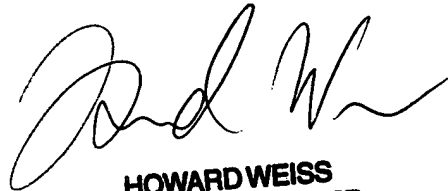
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Vikki Trinh whose telephone number is (571) 272-1719. The Examiner can normally be reached from Monday-Friday, 9:00 AM - 5:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Mr. Wael Fahmy, can be reached at (571) 272-1705. The office fax number is 703-872-9306.

Any request for information regarding to the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Also, status information for

published applications may be obtained from either Private PAIR or Public Pair. In addition, status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. If you have questions pertaining to the Private PAIR system, please contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 for information on this policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.

Vikki Trinh,
Patent Examiner
AU 2814



HOWARD WEISS
PRIMARY EXAMINER